

BA WTR
WR ND
Mail Stop 60189

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MAR 29 2000

Memorandum

To: Project Leader, Tewaukon National Wildlife Refuge

From: Chief, Division of Water Resources, Region 6

Subject: 1999-00 Annual Water Use Report/Management Plan

The subject reports for Tewaukon and Lake Elsie National Wildlife Refuges have been reviewed and approved as submitted. In 1999, all rights were relinquished and Lake Elsie is no longer managed as a unit of the National Wildlife Refuge system. Therefore, annual water use reports are no longer required. The Tewaukon 2000 Plan has been forwarded to the State as the 2000 Operations Plan.

The Declaration of Filing for Storm Lake NWR lists storage of 729 acre-feet and seasonal use of 516 acre-feet NOT 522 acre-feet storage and 900 acre-feet seasonal as shown on your report. Please use the corrected information on future reports.

Attached is the signed approval page for your files.

/S/ CHERYL C. WILLISS

Attachment

bcc:WR rf
RO rf
GARD, ND/SD (Shupe)
WTR:LCoe:lc:3/28/00
I:\WATERUSE\NO_DAKOT\00TEWAUK.00

5. Location Map

Please see attached Refuge Map on which all management pools are marked.

Submitted By:

S. L. M. Salim
Refuge Manager

Date: 3/13/00

Reviewed By:

Ron Shupe

Date: 3/22/00

Approved By:

Walter B. Zepir

Date: 3/22/00

Concurrence:

Cheryl Williams

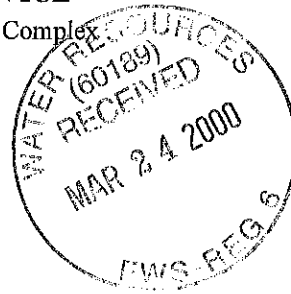
Date: 3-28-00

Attachments



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143½ Ave SE
Cayuga, ND 58013-9764



March 13, 2000

MEMORANDUM

To: R&W, ND/E. MT Refuge Supervisor (60100)
Denver, CO

From: Refuge Manager, Tewaukon NWR Complex (62660)
Cayuga, ND

Subject: 2000 Annual Water Management Plan and 1999 Use Report

RECEIVED
N&ARD
MAR 14 2000

1. List of Water Rights

Water Right Filing No. 57: Declaration of Filing dated September 1, 1934 claimed 104 surface acres, for 397 acre-feet storage and 312 acre-feet seasonal use for Clouds Lake (Pool 8) now called Hepi Lake from unnamed tributary to Wild Rice River. Listed on the same sheet as Lake Tewaukon/White Lake, as per RO(EN) Marshall Fox's 11-14-83 memo. Water use in pools 5 through 10 is covered under this right, with Hepi Lake to be drawn down to fill these pools.

Water Right Filing No. 64: Declaration of Filing dated September 1, 1934, for Lake Tewaukon and East and West White Lake (including Cutler Marsh), 1417 surface acres, for 7198 acre-feet storage, 4251 acre-feet seasonal from Wild Rice River and unnamed tributary.

Permit #1261: 4852 acre-feet storage and 2287 acre-feet seasonal use, for a total of 7139 acre-feet from the Wild Rice River for fish and wildlife use. This permit covers additional storage and seasonal use in Lake Tewaukon, Cutlers Marsh and West White Lake; 409 acre-feet seasonal use to replace water to be diverted from the watershed by Sargent County Water Conservation District project; and total storage and seasonal use for Pools 3 and 4. Priority date December 28, 1964.

Tewaukon NWR #1262: 1,130 acre-feet yearly (635 acre-feet storage and 495 acre-feet seasonal use) for Sprague Lake, dated December 28, 1964, diversion from an unnamed creek in the SE1/4 NW1/4, Sec. 2.

Tewaukon NWR #1263: 686 acre-feet yearly for Mann Lake (total of 236 acre-feet comprised of 107 acre-feet storage and 129 acre-feet seasonal use) and Horseshoe Slough (total of 450 acre-feet comprised of 270 acre-feet storage and 180 acre-feet seasonal use) dated December 28, 1964, diversion from the Wild Rice River.

Tewaukon NWR #3816 Nickeson Tract: 571 acre-feet (474 acre-feet storage, 97 acre-feet annual use) for the Nickeson Bottoms, a tract jointly owned by the ND Game and Fish Department, US Bureau of Reclamation and US Fish and Wildlife Service (FWS). Diversion is from the Wild Rice River, W ½ Section 27, T. 130 N., LTL, R. 54 W. Priority date August 15, 1985. Received perfected water permit on August 14, 1997. Recorded in the Register of Deeds, Sargent County on March 3, 1998.

2. Water Use - 1999

While not much winter precipitation was recorded in 1998/99, water levels were again high due to existing water levels at freeze up and rainfall through the year. There was however a slight drop in pool water levels as compared to last year. The Wild Rice River, LaBelle Creek, Frenier Dam Outlet and Sprague Lake Creek flowed above average this year, exceeding management levels in all wetlands. In February stoplogs were removed from Dam 1 to move water out of the system before a major spring thaw. The Wild Rice River continued a steady flow the entire year with high peaks at major rain events in June, August, and September. It is believed that the cleaning of the Crete-Cogswell drain in 1984-85 plus several continuous high water years caused this increased flow in the Wild Rice River. In the late fall (October, November) very little to no precipitation fell causing some drying of wetlands. Freeze up this year was a month later than normal occurring on December 6. Descriptions of pool levels in this section are based on the existing gauges in the pools except where gauges do not exist then approximations are given from the pool elevation survey maps. Duck numbers peaked during the week of November 4 with 36,000. Snow geese (4300), and Canada geese (8700) numbers also peaked during the week of November 4.

Pool 1 (Lake Tewaukon): In anticipation of spring runoff, boards were pulled from the lake at the end of February, beginning of March. Spring runoff caused the pool to peak at 1148.67 on April 7. Average lake level for the year was 1148.31 just a few tenths above the desired management level of 1148. Normal evaporation at the end of July showed a level of 1147.68. A major rain event occurred in early September which increased the level to 1149.44 on September 7. Final level recorded was on November 30 with a level of 1148.06. Freeze up was later than normal due to the unusually warm temperatures and lack of snow fall. Duck numbers peaked during the week of November 4 on the Lake with 14,235 birds counted. Snow geese (3000), Canada geese (3000) and white-fronted geese (50) were also observed at high numbers during that week. Weather had been so warm during early fall that the ducks and geese took a while to build their numbers and some flew over late in the year without stopping. It was reported that many flocks were headed south then with the warm temperatures they moved north again. Adequate water and available food in crop fields throughout the District distributed the flocks of geese. The lake was frozen at 1148 (which is full pool) on December 6. The river continued to provide an intermittent flow under the ice after freeze up and water continued flowing over the dam due to continued precipitation events. Unusually warm temperatures combined with the aerator managed to keep some geese and ducks in the area through January and into February 2000. 2,500 geese and 37 ducks were observed on January 6 during the midwinter waterfowl survey. In February 2000 more ducks and geese moved in with the warmer weather.

Parker Bay (east end of Lake Tewaukon): Spring runoff from adjacent areas filled the pool to 3 feet. Flow was prevented from entering Parker's Bay from LaBelle Creek (stoplog structure). Average pool depth throughout the year was at 3 feet. Waterfowl, especially diving ducks continued to utilize this pool in the fall migration period. Numbers of waterfowl were included in the Pool 1 survey information (see above).

Pool 2 (Cutler Marsh): This pool peaked at 1151.63 on April 7 during the spring runoff. In May boards were pulled to facilitate the repair of the DU Pool 2 cross dike which was breached during the 1997 flood. The pool was dropped to an elevation of 1148.75 on June 2. The repair was completed in early August of 1999. The old cross dike structure was replaced with a structure (66" CMP riser, with a 48" culvert), the breached portion was repaired and the dike was reinforced. On August 23 boards were added to Pool 2 to facilitate the replacement of a culvert on County Road 12 with a box culvert. This road was also damaged during the spring 1997 flood. At the end of September the boards were removed to facilitate the addition of riprap on the upstream face of the Pool 2 dike. On October 30 the pool was back to 1148.75. Average elevation of the pool for the year

was 1150.49. Limited goose use was observed on this pool during the fall migration. At freeze-up (December 6) the level of this pool was approximately 1149.

Pool 2A: Going into the winter of 98/99 the pool was froze at approximately 1153*. Water was moved out of the pool in the spring to remove the normal runoff. This pool was maintained through out the year at approximately 1153 to facilitate the installation and collection of data from the invertebrate traps. At freeze up in early December 1999 it remained at 1153*.

Pool 3 (Maka Pool): Pool 3 peaked at 1154.55 on April 7. The water dropped to 1151.17 by May 27 to provide vegetation growth in the pool and to facilitate the repair to the DU Pool 3 cross dike. Repairs to the cross dike were completed by August. The breached portion was repaired and the dike was reinforced. A review of the pool at this time showed growth of smartweed, spikerush, nutsedge, millet, and many small cattail plants. Use of the pool at this time included shorebirds, egrets, pelicans, geese and a few ducks. On September 6 a major rain event rose the pool level to 1153.60 ruining plans to put water gradually on the area. The pool then peaked at 1154.00 on October 30. Average level for the year was 1152.77. A final reading of 1153.50 was taken on November 30.

Pool 3A: Spring runoff caused the pool to peak at 1156*. It continued to drop through the year due to evaporation loss. At freeze up it was approximately 1153*.

Nickeson Bottoms: Spring runoff from the local watershed, flood relief from township roads and the natural state land flows increased the pool to 8 feet. Waterfowl use in 1999 was low. Lack of emergent vegetation caused by deep water made the area unappealing to over water nesters and as brood water. During May through August when Pool 3 was lowered, attempts were made to remove water from Nickeson Bottoms. From this effort and natural evaporation the pool froze at an approximate depth of 6 feet.

Pool 4 (River Pool): Peak spring water level occurred on April 7 when the water level was recorded as 1159.50. The pool was then raised to 1160.27 on May 12. It gradually dropped due to evaporation. The September rain event bounced the pool level back up to 1160.84. In early October boards were removed to facilitate riprap placement on the upstream dike face. Average pool level for the year was 1159.50. A final pool reading of 1158.07 was recorded on November 30.

Pools 3 and 4 had moderate waterfowl use during the fall migration with ducks as the majority users. Peak numbers on November 4, 1999 included 3000 mallards, 500 pintail, 200 wigeon, 100 gadwall, 100 shovelers 20 redheads and 10 canvasbacks. Also observed were 2000 Canada geese, and 300 snow geese.

Pool 5: Pool 5 was repaired in 1998. The structure was replaced with a 48" riser with a 24" culvert, a new spillway was built and the dike was repair and reinforced. No water was added in 1999 to allow for vegetative growth on the spillway and face of the dike. Some water did flow through especially during the repairs to Pool 6 and 7A in October.

Pool 5A: This pool was at approximately 1165* during the spring. It was drawn down in August to facilitate repairs to Dam 6. It froze at approximately 1162*.

* Approximate water level readings are based on completed surveys of pool depths which were mapped for refuge use. This is the only reliable method available at this time. All pools are scheduled to have gauges set to mean sea level in 2000.

Pool 6: During spring runoff this pool overtopped full pool of 1170* and eroded the structure. It no longer held water and dropped to 1165*. In October this structure was removed and replaced with a new water control structure (24" culvert with 48" structure). Very little additional accumulation was received after the structure replacement and the pool froze at 1166*.

Pool 7: On April 7 the pool elevation was 1173.3 then when Pool 7a developed structure problems boards were pulled to relieve pressure on the 7a dike (April 27). This dropped the pool to 1172 at which it was maintained for the remainder of the year.

Pool 7A: In April this pool continued to have structural problems with holes allowing water to escape from the pool. The structure was temporarily patched with dirt to allow filling of the pool to 1177* during the heron nesting season. Pool 7A has a active rookery composed of great egrets, great blue herons, cormorants, and black-crowned night herons. The pool maintained at 1174* for most of the year until the structure was replaced. Due to the extremely dry conditions of the pool in early fall, several carcasses (waterfowl and shorebirds) were found in the pool. Botulism is suspected but unconfirmed. In October the structure was replaced with a new structure (24" culvert with 48" structure). Pool was at approximately 1175* at freeze up.

Pool 8 (Hepi Lake): East and north side structures were repaired by the DU contractor in the fall of 1998. The east structure was a 48" riser with a 24" culvert and the north structure was 60" riser with a 48" culvert. Freeze up depth in winter 98/99 was 1 ½ feet deep in the center of the pool (1170.8*). During spring runoff the pool peaked at 1177.9 (spillway elevation). Water was moved into Pool 7a to maintain safe nesting habitat for the herons and egrets. Efforts were made to avoid excessive flow into Pool 9 to allow for vegetative growth in the constructed above ground outlet. Some flow was allowed but it was restricted to what would flow through the original outlet pipe. The pool was maintained at approximately 1174 through the year which continued through freeze up.

Peak waterfowl numbers on November 4 for Hepi Lake and adjacent pools (7A, 9, 10) were 4050 ducks and 1010 geese. Largest numbers by species were: 500 Canada geese, 500 snow geese and 3000 mallards.

Pool 9: Both the inlet (from Pool 8) and the outlet of this pool were repaired in the fall of 1998. The outlet installed consisted of a 8' wide channel with 2:1 side slopes (at an elevation of 1170 dropping to the river) and a steel drop structure with a grouted riprapped base. This was installed above the existing 12" PVC pipe to provide a spillway for larger and higher flows. Freeze up depth in the winter of 98/99 was 3 1/3 feet deep (1164.6*). From spring flows the pool peaked at 1166*. Efforts were made to avoid excessive flow to allow for vegetative growth in the constructed above ground outlet. The remainder of the year flows from Pool 8 were limited to what the original outlet pipe could handle. This maintained the pool at approximately 1164* through freeze up.

Pool 10: Efforts were made to reduce inflows to this pool through the structure (no adding or subtracting of water). As a result it only increased slightly and then dropped due to evaporation. The pool was maintained at 1175* through the year into freeze up.

Pool 11 (West White Lake): On April 7 the pool elevation was 1149.45. At this time boards between East and West White Lake were removed to try to move water out of both pools into Pool 2 and the Wild Rice River when the south Pool 2 levels had dropped significantly. On July 7 both pools were at 1148.5 when the boards were added to prevent back flows into these pools. By freeze up Pool 11 was at 1150.55 due to rain events.

Pool 12 (East White Lake): On April 7 the pool elevation was 1149.45. At this time boards between East and West White Lake were removed to try to move water out of both pools into Pool 2 and the Wild Rice River when the south Pool 2 levels had dropped significantly. It then maintained the same level as West White Lake. On July 7 both pools were at 1148.5 when the boards were added to prevent back flows into these pools. This pool has no vegetation except along a few edges. It also has developed severe erosion in some areas. The only wildlife to use this pool are pelicans, cormorants and great blue herons. Pool 12 continued to flow into south Pool 2 and into the Wild Rice River most of the summer whenever possible. By freeze up Pool 12 was at 1148.18.

East and West White Lake had peak waterfowl numbers on November 4, 1999 with 100 Canadas, 4000 mallards, 100 gadwalls, 50 ringnecks, 200 redheads and 1000 lesser scaup.

Pool 13 (Mann Lake): Spring runoff showed a peak water level of 1210*. In June water was pumped out of the pool (river was too high to reduce water through the structure) to facilitate the installation and collection of data from the invertebrate traps. The west end of the pool saw some brood use and divers during the summer. In the fall migratory waterfowl use was also noted. The level at freeze up was approximately 1206*.

Pool 14 (Sprague Lake): The lake peaked at 1213.5 during spring runoff. It was maintained through out the year at 1212 through freeze up. This lake had some migratory bird use as well as mergansers, grebes, cormorants and great blue herons.

Pool 16 (Horseshoe Slough Group): The Banish "J" Dike was repaired and riprapped in May of 99. "A" dike was also repaired in June of 1999. These areas were part of the 1997 flood damage. B-North continued to receive water from the north off of the Refuge where the County Road Department breached an old railroad grade in 1997 to relieve flooding of County Road 3. When the water level dropped in the Wild Rice River, all Pools were lowered by backing water through "A" dike into the Wild Rice River. Pool A (16-1) was dropped two feet from 1209* to 1207*. The remainder of the pools were dropped one foot from 1208* to 1207*. The watershed inflow continued through much of the year making it impossible to reduce the pools further. The pools in the Horseshoe Slough Unit saw high numbers of broods due to the good ratio of open water to cattails. They also provided shallow feeding areas for broods.

The Sprague Lake Refuge Units (Pools 13, 14 & 16) had large concentrations of waterfowl on November 4, 1999 with 3000 Canadas, 500 snow geese, 5000 mallards, 100 gadwalls, 500 pintails, 300 shovelers, 300 wigeon, 300 ringnecks, 500 redheads, 20 canvasbacks, 1000 lesser scaup, 20 buffleheads, and 10 mergansers.

3. Impoundment Data

Please see the attached chart for capacities for each pool at various elevations. No formal inflow/outflow records were maintained. There are currently no functional gauges on pools that relate to mean sea level. Please see Section #2 above for elevation changes for the various pools.

4. 2000 Plans

The following plans for the water levels in the pools are the best levels for attaining management objectives. However, with ongoing repair to roads and structures and possible continued high flows through the Wild Rice River, it is not anticipated that we will attain them this year. All efforts will be made to manage pool levels at desired elevations without incurring additional damage to dikes from high water.

On one additional pool (Pool 5) invertebrate samplers will be installed for monitoring of wetland response to draw downs and to give managers a tool in knowing when a specific pool is in need of a draw down. Two previous pools (Pool 2a and 13) had samplers installed last year and we are awaiting invertebrate data and information on whether the number of samplers installed is sufficient for the station's monitoring needs.

Pool 1 (Lake Tewaukon): Maintain water level at 1148. This elevation will help to maintain a large open water area for migrating waterbirds which will also benefit the sport fishery habitat. Prior to the Point Road construction repairs the lake will be drawn down two feet. After that project is completed a half of a foot will be added. This should provide sufficient draw down for the Bridge replacement project on the north end of the lake. After all projects are completed the pool will be raised from water held in Pool 2, 3, and 4 to provide for the 1148 elevation prior to freeze up.

Parker Bay (east end of Lake Tewaukon): If possible, lower to maintain a 2½-3 foot depth for waterfowl production.

Pool 2 (Cutler Marsh): Try and maintain the pool at 1154.5 to store water for Pool 1. Once the Pool 1 construction projects have been completed move water into Pool 1 to provide for migrating waterbirds and overwintering of the fishery. Also try to remove additional water from south Pool 2, East White Lake and West White Lake into Pool 1.

Pool 2A: Maintain at a water level of 1153. This will allow a 4 foot water depth for brood use. Invertebrate samplers will continue to collect invertebrates during the year.

Pool 3 (Maka Pool): Maintain pool at 1155 to store limited water for Pool 1 and reduce backflows from Pool 2. If needed, supply water to Pools 2A and 3A. Once the Pool 1 construction projects have been completed move water into Pool 1 (through Pool 2) to provide for migrating waterbirds and overwintering of the fishery. Also try to remove additional water from east Pool 3.

Pool 3A: The pool will be filled to a level of 1156 for brood use. If needed obtain water from Pool 3 during spring flows.

Nickeson Bottoms: Water levels will be dropped as the Wild Rice River water levels will allow. This pool has very little vegetation or wildlife use. An attempt must be made to try and lower this pool from approximately 6 feet to a depth of 3 feet to improve vegetative growth and waterfowl use.

Pool 4 (River Pool): Maintain approximately 1161 to store water for Pool 1. For duck nesting, especially over-water nesting, stabilize water level as quick as possible before April 15. Once the Pool 1 construction projects have been completed move water into Pool 1 to provide for migrating waterbirds and overwintering of the fishery.

Pool 5: Fill this pool to 1160 for brood use. Water placed on the existing vegetation should provide a flush of invertebrates for brood use. After the initial flush of sediments the invertebrate samplers will be installed.

Pool 5A: Allow to fill 2-3 feet (elevation 1162) with water diverted from Hepi Lake.

Pool 6: Maintain at a level of 1167. Current density of cattail makes excellent cover for northern harriers, marsh wrens, bitterns, and red-winged blackbirds.

Pool 7: Maintain at a level of 1174. Current density of cattail makes excellent cover for northern harriers, marsh wrens, bitterns, and red-winged blackbirds.

Pool 7A: Divert water from Hepi Lake during spring runoff to fill to a maximum depth to flood cattails and maintain water through out the summer (elevation 1178 minimum). The pool will dry out rapidly through an average summer due to the evaporation of its large surface area. For Pool 7A's active rookery, water levels should be managed to keep 3 feet of water in the pool throughout the summer and fall. Also maintain sufficient water to avoid a botulism problem (which occurred last year due to structure failure).

Pool 8 (Hepi Lake): Control structures on the north and east ends were repaired in Dec 1998. As spring runoff increases the pool level, water should be diverted to fill Pools 5, 5A, 6, 7 and 7A (with 5 and 7A as the priorities). If excess water exists after filling these pools water should be diverted out of 7A through its north structure. Pool 8 should be kept at a 2-4 foot level (maximum of 1174*) to encourage vegetative growth. The culvert to the north of Hepi should only allow water to flow through the original Pool 9 outlet pipe until the channel from pool 9 to the Wild Rice is vegetated.

Pool 9: Due to construction Pool 9 was lowered last fall. Plans are to avoid filling this pool from Hepi to reduce impacts to the channel from Pool 9 to the Wild Rice until it is vegetated. Hopefully snows and rains will not exceed the current freeboard in Pool 9. If possible maintain a 2 - 3 foot level in this pool (no greater than 1164.5) to allow for vegetative growth around the edges.

Pool 10: Lower to a depth of 2 ½ feet (1173.5*) to encourage submergent vegetation growth to maintain its highest use as a semi-permanent wetland.

Pool 11 (West White Lake): Maintain depth at 4 to 4 ½ feet to slow cattail invasion. If necessary pump water to Pool 12 to keep from flooding County Road 5. Maximum level should be 1150 for cattail control and no higher than 1151 to reduce impacts to County Road 5. To allow drop in East White Lake, block structure after spring runoff.

Pool 12 (East White Lake): Add no water to this pool unless there is a need to pump water from Pool 11 to protect County Road #5. If feasible allow this pool to drop to as low as possible. Try to move water into Pool 2 especially during the expected late summer filling of Pool 1. Allow gradual drying to reestablish cattails and to reduce bank erosion.

Pool 13 (Mann Lake): Maintain at current elevation (1206*, ~4 feet). Pumping may be required to maintain this depth if the river level is high. Invertebrate sampling will continue through the year. Repairs for this structure are planned for the year 2000 by a DU contractor. With the planned elevation there should be no conflict with the construction process.

Pool 14 (Sprague Lake): Maintain maximum pool, about 8 ½ to 9 feet in order to maintain a large open water area for migrating waterbirds which will also benefit the sport fishery. If flood project is to begin this summer there may be a need to reduce the water level.

Pool 16 (Horseshoe Slough): Pools are at maximum level, no water is needed in the system. Once the Wild Rice River recedes lower all pools as much as possible. The railroad grade still has a cut in it and may raise the water levels in these pools further.

TEWAUKON NATIONAL WILDLIFE REFUGE

Pools, Elevations and Acres

| Pool No. & Name | January 1, 1999 | | | December 31, 1999 | | |
|-----------------------------|-----------------|-----------------|--------------------|-------------------|-----------------|---------------------|
| | Elevation | Surface Acres * | Volume (acre ft.)* | Elevation | Surface Acres * | Volume (acre ft.) * |
| Pool 1 - Tewaukon | 1148.94 | 1068 | 9374 | 1148.00 | 1059.56 | 8303.05 |
| - Parker's Bay | 1145 | 61.50 | 66.11 | 1145.00 | 61.50 | 66.11 |
| Pool 2 - Cutler's Marsh | 1151.00 | 257.87 | 1078.17 | 1149.00 | 227.79 | 587.18 |
| Pool 2A | 1153 | 27 | 71 | 1153 | 27 | 71 |
| Pool 3 - Maka Pool | 1153.42 | 81 | 205 | 1153.5 | 83.02 | 212.03 |
| Pool 3A | 1151.09 | 0 | 0 | 1153 | 5.03 | 4.39 |
| Pool 4 - River Pool | 1158.95 | 101 | 212 | 1158.07 | 74 | 132 |
| Pool 5 | 1154.71 | 0 | 0 | 1154.71 | 0 | 0 |
| Pool 5A | 1162 | 3.57 | 3.29 | 1162 | 3.57 | 3.29 |
| Pool 6 | 1165 | 1.14 | .43 | 1166 | 3.34 | 2.63 |
| Pool 7 | 1173 | 18.95 | 38.18 | 1172 | 15.10 | 20.95 |
| Pool 7A | 1174 | 16.57 | 6.61 | 1175 | 35.93 | 31.91 |
| Pool 8 - Hepi Lake | 1171 | 80.38 | 93.34 | 1174 | 96.23 | 358.66 |
| Pool 9 | 1164.50 | 9.49 | 19.72 | 1164 | 8.54 | 15.20 |
| Pool 10 | 1174.5 | 6 | 15 | 1175 | 7 | 18 |
| Pool 11 - West White Lake | 1148.70 | 55 | 91 | 1150.55 | 81.86 | 217 |
| Pool 12 - East White Lake | 1148.70 | 104 | 561 | 1148.18 | 102 | 507 |
| Pool 13 - Mann Lake | 1212.4 | 57 | 441 | 1206 | 44 | 118 |
| Pool 14 - Sprague Lake | 1212.37 | 186 | 1319 | 1212 | 184 | 1250 |
| Pool 16 - Horseshoe Slough | | | | | | |
| - Pool 1 (A Pool) | 1209 | 90.00 | 173.90 | 1207 | 41.16 | 39.27 |
| - Pool 2 (B Pool) | 1208 | 56 | 220 | 1207 | 50 | 167 |
| - Pool 3 (C Pool) | 1208 | 12 | 53 | 1207 | 11 | 41 |
| - Pool 4 (B West) | 1208 | 58 | 217 | 1207 | 51 | 163 |
| - Pool 5 (B North) | 1208 | 39 | 95 | 1207 | 31 | 60 |
| - Pool 6 (C North) | 1208 | 14.29 | 18.6 | 1207 | 8.57 | 7.22 |
| - Pool 7 (C South & C East) | 1208 | 25.65 | 74.65 | 1207 | 21.83 | 50.77 |

*1998-99 Pool acreages and volumes that were taken from a table calculated from information gathered during recently completed surveys of pool depths which were mapped for refuge management purposes. There are currently no functional gauges on pools that relate to mean sea level.

Whole numbers (i.e. 27) are from expanded area tables from data collected in 1997.

WATER USE REPORT/MANAGEMENT PLAN
SHORT FORM

Lake Elsie NWR, Richland County
Station Name

Summer, 1997 (date not recorded)
Date Of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Considerable local runoff, at least two drainage
Source(s) ditches, springs

Several
(522 acre-feet storage)
(900 acre-feet seasonal)

Means of Diversion None
Rate _____

Water Diverted: Yes___ No X

Water Level 522 acre-feet
(Elevation or Est. Storage Amount)

*Impoundment(s): Yes___ No X

*Well(s):
Free Flowing none-known gpm
Pumped _____ gpm

Type of Use:
Surface Irrigation _____
(Crop) _____
Fish & Wildlife XX
Stock _____
Domestic _____
Other high public use: swimming, water skiing,
fishing

Overall Climatic Conditions:

Condition of Facilities: No facilities present.

Proposed Water Program: County Commissioners and Water Board are looking for solutions to maintain the lake level. They have created an outlet (dug ditch) through Murphy Slough (FWS easement) & Dump Slough (off our easements) to stabilize the lake. Service has agreed to the stabilization provided that the North Dakota Game and Fish approve the water level for fishery purposes. No water management capability is currently present. At maximum the lake spills north from Murphy Slough through a culvert. In 1992 the Fish and Wildlife Service proposed to divest of the wildlife conservation and demonstration due to the current recreational use. The proposal indicated that we would be giving up the water right. In 1998 the proposal was attached to a bill (Public Law 105-312) that passed in October 30, 1998 which terminated the easement refuge. It also revoked Executive Order 8152. In 1999 the Service gave up the water rights to the State. The attached letter and water right forfeiture dated October 26, 1999 documents this action. Also attached is a copy of the quit claim deed for Lake Elsie Easement Refuge.

Comments: The lake is an extremely popular summer recreational area. The Richland County Commissioners, Richland County Wildlife Club and the North Dakota Game and Fish are looking at a project that would include raising the bridge and county road, provide a fishing bridge, build a carp trapping area and the possibility of a walleye rearing pond.

Sandra M. Siekaniec
Sandra M. Siekaniec, Refuge Manager

3/13/00
Date

WATER USE REPORT/MANAGEMENT PLAN
SHORT FORM

Storm Lake NWR, Sargent County
Station Name

Summer, 1998
Date Of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Drainage ditch (legal)
Source(s)

Several 729
(~~522~~-acre-feet storage)
(~~900~~ acre-feet seasonal)
516

Means of Diversion Uncontrolled
Rate Unknown

Water Diverted: Yes___ No X

Water Level est 654 acre-feet
(Elevation or Est. Storage Amount)

*Impoundment(s): Yes___ No X

*Well(s):
Free Flowing none gpm
Pumped _____ gpm

Type of Use:
Surface Irrigation _____
(Crop) _____
Fish & Wildlife X Virtually no public use
Stock _____
Domestic _____
Other _____

Overall Climatic Conditions: 1999 was another moderately wet year. The legal drain and diversion ditch maintained the lake level only after the snow and ice melted.

Condition of Facilities: A diversion dam at the head of the feed ditch serving Storm Lake washed out well before 1976. Apparently someone decided it wasn't worth repairing. The town dug a ditch beside the existing structure to allow for flood waters to move out of the town. At the end of 1997 the town placed a culvert with flap gate at an agreed elevation by a special use permit with the refuge manager. The culvert is well above the existing structure and will allow flood waters to be move out with out impacting the water right. The ditch through the golf course was also cleaned in 1997 through a special use permit to facilitate removal of flood waters. At that time the Golf Course placed 2 new bridges on the fee title property with out notification of the refuge. An agreement with the Service was signed to mitigate the mowing of the fee title property with no mow areas along the golf course edges for wildlife was signed in 1999. A right-of-way for the four bridges is still in progress.

Proposed Water Program: No water management capability is present. Water runs down the ditch into the lake to an unknown degree each spring. Water did fill Storm Lake in 1993. Current high waters and overland flooding have resulted in the feeder ditch becoming an outlet for the water in Storm Lake into the legal drain.

Comments: The lake serves as an excellent waterfowl loafing sanctuary with good use by snow geese, canvasbacks, redheads, lesser scaup, and tundra swans. Water levels fluctuate on their own. If active management was initiated, some degree of improvement might be gained by a cycle of draw down management. It is questionable if the benefits would be worth the costs for Storm Lake alone. However, when you look at the other three wetlands to the south we should continue to work with Ducks Unlimited and put the Mini Joint Venture back on tract. The Golf Course Association of Milnor which at one time requested lake water to irrigate portions of the Storm Lake Golf Course has found a well water source. The Association was granted a conditional water right, junior to that of the FWS.

Sandra M. Siekaniec 3/13/00
Sandra M. Siekaniec, Refuge Manager Date



Office of the State Engineer

WATER APPROPRIATION DIVISION
(701) 328-2754

October 26, 1999

Ms. Cheryl C. Williss
Chief, Division of Water Resources
U.S. Fish and Wildlife Service
PO Box 25486
Denver Federal Center
Denver, CO 80225

Dear Ms. Williss:

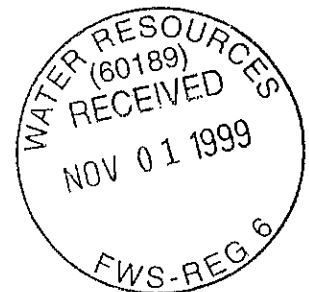
Enclosed is a photocopy of an Order declaring Water Right No. 169-58 forfeited, abandoned, and void.

The original Order is on file in our office.

Sincerely,

David A. Sprynczynatyk
State Engineer

DAS:rp
Enclosure



NORTH DAKOTA STATE ENGINEER

ORDER DECLARING WATER RIGHT NO. 169-58
FORFEITED, ABANDONED, AND VOID

1. Pursuant to Section 8270 of the Compiled Laws of North Dakota for the year 1913 and the U.S. Department of Agriculture filings of September 1, 1934, the United States Department of Agriculture submitted plans and data on migratory waterfowl projects within the Red River watershed on August 30, 1937.

2. The U.S. Department of Agriculture's declaration of filings claimed 522 acre-feet of water for storage and 900 acre-feet of water for seasonal use on the Lake Elsie National Wildlife Refuge.


3. The description of land involved in the water right claim is described as Sections 22, 23, 26, 27, 34, and 35, all in Township 130 North, Range 50 West, Richland County.

4. On February 19, 1999, the State Engineer received a letter from the United States Department of the Interior, Fish and Wildlife Service, which stated:

You may be aware that Congress recently terminated U.S. Fish and Wildlife Service jurisdiction over the lands and waters known as Lake Elsie National Wildlife Refuge. Because this area will no longer be managed as a unit of the National Wildlife Refuge System, the Fish and Wildlife Service hereby affirmatively relinquishes all right, title and interest in the September 1, 1934, Declaration of Filing for 522 acre-feet storage and 900 acre-feet seasonal use.

5. Therefore, Water Right No. 169-58 is declared forfeited, abandoned, and VOID.

DATED October 26, 1999.


David A. Sprynczynatyk
State Engineer

DOCUMENT NO. 292919

**QUIT CLAIM DEED
UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE**

THIS DEED made this 15th day of March, 1999, by the United States of America, acting by and through the Secretary of the Interior and his authorized representative, the Regional Director, U.S. Fish and Wildlife Service, Grantor, to wit:

WITNESSETH:

WHEREAS, in accordance with Section 4(a)(5) of the National Wildlife Refuge System Administration Act of 1966 (U.S.C. 668dd(a)(5)), notice was given by Public Law 105-312, signed October 30, 1998, terminating the jurisdiction of lands in Richland County, North Dakota, known as "Lake Elsie National Wildlife Refuge".

NOW THEREFORE, know all men by these presents, that the United States of America, acting by and through the U. S. Fish and Wildlife Service, Department of the Interior, that the easement interests in the following described lands in Richland County, North Dakota, are quit claimed, revoked, discharged, cancelled, rendered null and void and of no effect:

T130N, R50W, 5th Principal Meridian

All those lands or parcels of land lying within the ordinary high-water mark of the navigable meandered lake, known as Lake Elsie, situated in Sections 22, 23, 26, 27, 34 and 35;

The West Half of Lot 3, in Section 26 and all riparian lands that accrue thereto;

The West Half of the Southwest Quarter and Lots 1 and 2 of Section 27, and the Northwest Quarter of the Northeast Quarter or Lot 2 of Section 34;

The East Half of the Northwest Quarter and Lots 3 and 4 of Section 27 and all riparian lands that accrue thereto.

United States of America

I certify that the requirement for a report or statement of full consideration paid does not apply because this deed is for one of the transactions exempted by subdivision

E of section 6 of section 4 of

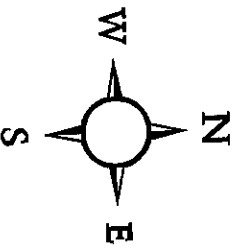
Senate Bill 2323 (1981).

Signed: David Russell Date: 3-23-99
Grantor or Agent

By Terry Terrell
Acting Regional Director
U.S. Fish and Wildlife Service, Region 6
Department of the Interior

Tewaukon

National Wildlife Refuge



County Road 10
→ 2.5 Miles

- LEGEND**
- ↓ Refuge Visitor Center
 - └ Scenic Overlook
 - ⌘ Picnic Area
 - ⚓ Boat Ramp
 - ⊙ Accessible Rest Room
 - ⊙ Accessible Rest Room, Picnic Shelter, and Fishing Dock
 - ▬ Refuge Boundary

- ▬ Easement Refuge
- ▬ County Roads
- Refuge Trails (Trails west of County Road 12 only open with permission of Refuge Manager)
- ▨ Closed to Hunting
- ▨ Waterfowl Production Area (WPA)
- ▨ North Dakota State Wildlife Management Area

Scale in Miles:
0 1/4 1/2 3/4 1

